

**REMARKS**

Applicant respectfully requests reconsideration. Claims 1-36 were previously pending in this application. By this amendment, Applicant is canceling claim 2 without prejudice or disclaimer. Each of claims 1, 6-8, 12, 15-17, 19, 25, 32 and 35 is being amended. As a result, claims 1 and 3-36 are pending for examination with each of claims 1, 19, 32 and 35 being an independent claim. No new matter has been added.

**Independent Claims 1, 19, and 32**

Each of independent claims 1, 19 and 32 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,896,671 to Cunningham et al. (hereinafter, "Cunningham"). Cunningham shows an ablation electrode (20) attached to an insulated catheter lead (12). The catheter lead at the junction with the electrode has a smaller diameter than the electrode (see Figures 2-4, 6, and 7 and the lines 8-10 of the Abstract of Cunningham).

**Claim 1**

Claim 1 has been amended and now recites a catheter which includes a catheter shaft having a distal end, the distal end having an insulating material and a diameter. The catheter also includes an electrode which forms a junction with the distal end of the shaft. Extending from the junction, an exposed electrode surface has a first diameter portion with a first diameter that is smaller than the diameter of the distal end of the shaft.

Cunningham does not teach that electrode (20) has a diameter, where the electrode extends from the junction of the electrode and shaft, that is smaller than the diameter of the distal end of the shaft. Because Cunningham does not teach such a feature, and claim 1 recites an exposed electrode surface extending from a junction and having a first diameter portion with a first diameter that is smaller than the diameter of the distal end of the shaft, withdrawal of the rejection of claim 1 is respectfully requested.

Each of claims 3-5 and 7-18 depends either directly or indirectly from claim 1, and withdrawal of the rejections of these claims is respectfully requested for at least the same reasons provided above for claim 1.

Claim 19

Claim 19 has been amended and now recites that an insulating material of a shaft has a diameter at a junction of the insulating material and an ablation electrode. The ablation electrode has an exposed surface that forms a channel with the insulating material. A base of the channel comprises a first diameter portion of the exposed electrode surface, and the first diameter portion has a diameter that is smaller than the diameter of the insulating material at the junction.

Cunningham states that the catheter has a smaller diameter than the electrode diameter at the junction of the catheter and the electrode (see Figs. 2-4, 6 and 7 and lines 8-10 of the Abstract of Cunningham). Accordingly, Cunningham does not disclose an electrode which has a first diameter portion that both forms a base of a channel and has a diameter that is smaller than the diameter of the insulating material at the junction, as recited in claim 19, and the rejection of claim 19 should be withdrawn.

Each of claims 20-31 depends directly from claim 19, and withdrawal of the rejections of these claims is respectfully requested for at least the same reasons provided above for claim 19.

Claim 32

As amended, claim 32 recites an ablation electrode which forms a junction with an end of an insulating sheath, and forms a channel with the end of the insulating sheath. Claim 32 also recites that a base of the channel comprises an exposed electrode surface of the ablation electrode, and a diameter of the ablation electrode along the channel base is smaller than the diameter of the end of the insulating sheath.

As discussed above, Cunningham states that the catheter has a smaller diameter than the electrode diameter at the junction of the catheter and the electrode. As such, Cunningham does not disclose an electrode having a diameter along a channel base, the diameter being smaller than the

diameter of the end of the insulating sheath with which the electrode forms a junction. Accordingly, withdrawal of the rejection of claim 32 is respectfully requested for at least this reason.

Each of claims 33 and 34 depends directly from claim 32, and withdrawal of the rejections of these claims is respectfully requested for at least the same reasons provided above for claim 32.

**Independent Claim 35**

Claim 35 stands rejected under 35 U.S.C. §112, second paragraph, as being indefinite. According to the Office Action, the final clause of the claim is ambiguous as to what "portion" is being referred to. Claim 35 has been amended to recite attaching the electrode to the shaft such that the first diameter portion of the electrode forms a junction with the shaft. As amended, claim 35 is not ambiguous, and the rejection of claim 35 under 35 U.S.C. §112 should be withdrawn.

Claim 35 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Cunningham. Claim 35 recites providing a catheter shaft with an insulating sheath, and providing an ablation electrode having a first diameter portion with an exposed surface attaching an electrode. As amended, claim 35 recites attaching the electrode to the shaft such that the first diameter portion of the electrode forms a junction with the shaft, and the first diameter portion has a diameter that is smaller than a diameter of the insulating sheath at the junction of the electrode and the shaft.

Cunningham states that the catheter has a smaller diameter than the electrode at the junction of the catheter and the electrode (see Figs. 2-4, 6 and 7 and lines 8-10 of the Abstract of Cunningham). Because Cunningham does not disclose an electrode attached to a shaft such that a first diameter portion of the electrode has a diameter that is smaller than a diameter of the insulating sheath at the junction of the electrode and the shaft, the rejection of claim 35 under 35 U.S.C. §103(a) should be withdrawn.

Each of claim 6 and 36 depends directly from claim 35, and the rejections of claims 6 and 36 should be withdrawn for at least the same reasons presented above for claim 35.

**CONCLUSION**

In view of the above amendment, applicant believes the pending application is in condition for allowance and a Notice of Allowance is respectfully requested. If the Examiner believes that minor clarifying amendments to the claim would be helpful, the Examiner is requested to call the undersigned at the telephone number listed below.

In the event the U.S. Patent and Trademark Office determines that an extension is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 23/2825 referencing Docket No. B1075.71018US01 from which the undersigned is authorized to draw.

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Respectfully submitted,

By 

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